CLAIMS:

1. A transmitter for generating a transmission signal, which transmitter includes: a modulation device (110) for generating at least two uncompensated transmission signals Y, Z by modulation of a baseband signal with a respective oscillation signal, each of said two uncompensated transmission signals Y, Z comprising at least one interference component and the interference components in the two uncompensated transmission signals being phase shifted relative to one another by a given amount, characterized in that the transmitter includes an all-pass (120) which succeeds the modulation device (110) in order to generate an output signal by shifting the phase of the interference component in one of the two uncompensated transmission signals in such a manner that the interference component in the output signal of the all-pass has been phase shifted 0° or 180° relative to the interference component in the other one of the two uncompensated transmission signals, and also includes a combination device (130) for generating an at least partly compensated transmission signal by mathematical combination of the output signal of the all-pass (120) and the other uncompensated transmission signal in such a manner that their respective interference components, phase shifted 0° or 180° relative to one another, are compensated in the at least partly compensated transmission signal.

2. A transmitter as claimed in claim 1, characterized in that the respective interference components in the two uncompensated transmission signals correspond to their third harmonic.

3. A transmitter as claimed in claim 1 or 2, characterized in that it includes a low-pass (140) for filtering the other uncompensated transmission signal before it is applied to the combination device (130).

4. A transmitter as claimed in claim 1 or 2, characterized in that it includes a further all-pass (340) for filtering the other uncompensated transmission signal before it is applied to the combination device (130).

5. A transmitter as claimed in one of the claims 1 to 4, characterized in that the transmitter includes a second low-pass (150) for filtering the at least partly compensated transmission signal at the output of the combination device (130).

6. A transmitter as claimed in claim 5, characterized in that the transmitter can be integrated on a chip together with the second low-pass filter (150).

7. A transmitter as claimed in one of the claims 1 to 6, characterized in that the modulation device (110) includes a first quadrature modulator (112) with a first and a second modulator (112a, 112b) for forming a first one of the two uncompensated transmission signals by combining the outputs of the first and the second modulator (112a, 112b), the first modulator (112a) modulating a first baseband signal Q with a first oscillation signal X_{LOQ} and the second modulator (112b) modulating a second baseband signal I with a second oscillation signal X_{LOI}.

8. A transmitter as claimed in one of the claims 1 to 7, characterized in that the modulation device (110) includes a second quadrature modulator (114) with a third and a fourth modulator (114a, 114b) for forming a second one of the two uncompensated transmission signals by combining the outputs of the third modulator (114a) and the fourth modulator (114b), the third modulator (114a) modulating the second baseband signal I with the first oscillation signal X_{LOQ} and the fourth modulator (114b) modulating the first baseband signal Q with the second oscillation signal X_{LOQ}.

9. A method of generating a transmission signal, which method includes the following steps: generating at least two uncompensated transmission signals, each of which includes at least one interference component, the respective interference components in the two transmission signals being phase shifted by a given amount relative to one another, characterized in that the phase of the interference component in one of the two uncompensated transmission signals Y, Z is shifted in such a manner that the amount of the phase difference between the interference components in the two uncompensated transmission signals amounts to 0° or 180° after the phase shift, and in that the phase-shifted uncompensated transmission signal and the other uncompensated transmission signal are added when their respective interference components are of opposite phase whereas the two uncompensated transmission signals are subtracted from one another when their respective

interference components are of the same phase, thus yielding an at least partly compensated transmission signal.